

XXIV. *On the British Species of Agathidium.*

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[Read 6th November, 1865.]

THROUGH the kindness of my Entomological friends, I have recently been able to examine the specimens of our native *Agathidia* contained in most of the principal collections, and have thought the following short notes on the genus might not be altogether unacceptable. I have also examined the Stephensian collection in the British Museum, and believe the account given below of the insects placed in that collection under the generic name of *Agathidium* will be found correct.

Stephens in his "Illustrations of British Entomology" has described three species of *Agathidium*, which he supposed to be undescribed by foreign authors, viz:—*Agathidium ruficolle*, *A. affine*, and *A. rufipes*; and for the first two of these he cites the names of *Dermestes ruficollis*, Marsham, and *Dermestes affinis*, Marsham. Neither of these names is used in the following descriptions of the British species, for *D. ruficollis*, Marsham, is synonymous with the previously-described *Amphicyllis globus* of Paykull, and though the Stephensian type of *Ag. affine* is an example of the species subsequently described by Erichson as *A. lævigatum*, I do not think Marsham's name can be adopted, his (as also Stephens') description being totally inadequate to allow a foreign author to recognize the species intended to be so designated; nor do I think it advisable that a name now so well known as that given to this species by Erichson should be supplanted on the mere authority of a type; (there being, moreover, two other species in Stephens' cabinet of which the type is a specimen of *A. lævigatum*, Erich.) Of *Agathidium rufipes* there is no type in the author's cabinet; and it is quite impossible from the description to ascertain to what species it is intended to apply.* For these reasons, therefore, I have adopted the names unanimously used by foreign writers on the genus.

1. Of *A. ruficolle* there are three examples in Stephens' cabinet; they are all *Amphicyllis globus*, Payk.

* Erichson, however, gives *A. rufipes*, Steph., as a synonym of *A. atrum*, Paykull; and, perhaps, on the whole, the description in the "Illustrations" is most applicable to the species generally known by the latter name.

2. Of *A. globus* the only specimen is much mutilated, but appears to be a pale variety of *A. nigrinum*, Sturm.
3. *A. atrum*, four examples; the type is *A. atrum*, as are also two of the others; the fourth being *A. lævigatum*.
4. *A. ferrugineum*, one specimen; it is a pale variety of *A. nigrinum*, Sturm.
5. *A. seminulum*, two specimens; the one supposed to be the type is *A. marginatum*, Sturm, the other being really *A. seminulum*.
6. *A. orbiculatum*, two examples, both of which are *A. lævigatum*, Erichson.
7. *A. mandibulare*, a single specimen; it is *A. marginatum*, Sturm.
8. *A. nigrinum*, four specimens; the type is *A. lævigatum*, as are also the other three examples.
9. *A. affine*, one specimen; it is also *A. lævigatum*, Erichson.
10. *A. carbonarium*, two specimens; the type has a label marked "aquaticum" attached to it; both are *Chætarthria seminulum*.
11. *A. minutum*, two specimens, both of which belong to the genus *Clambus*.
12. *A. nanum*, seven specimens, all of which are, I think, *Clambus pubescens*.

Thomson in his "Skandinaviens Coleoptera" has separated three species of *Agathidium* (*A. lævigatum*, *A. seminulum* and *A. badium*) from the rest of the genus, and made for them a new genus, *Cyphocele*; this, however, I have not been able to retain, for its characters are not constant in the three species that compose it. For instance, *A. lævigatum*, Erich., and *A. seminulum*, Linn., are considered to belong to *Cyphocele*, whilst *A. atrum*, Paykull, is still left in the genus *Agathidium*; and yet there is as much difference in the structure of the metasternum between *lævigatum* and *seminulum* as between *lævigatum* and *atrum*; on the other hand *seminulum* approaches *atrum* in the relative position of the coxæ more than *lævigatum* does.

1. *Agathidium nigripenne*, Kugel.

Head and thorax bright red, extremely finely and obsoletely punctured; elytra black, rather thickly and not finely punctured, with a well marked sutural stria extending from the apex nearly to the base; legs and antennæ red, the two first joints of the club of the latter rather darker, 7th joint larger than either the 6th or

8th. ♂ with the anterior tarsi dilated, an obtuse tooth at the apex of the posterior femora, and a very minute fasciculus of hairs on the metasternum.

Long. 1—1¼ lin.

The bright scarlet colour of its head and prothorax at once distinguishes this pretty species from all its congeners. It appears to be very rare (if found at all) in the south, but is not uncommon in the north of England and in Scotland, at the oozing sap of recently-felled trees.

2. *Agathidium seminulum*, Linn.

Above pitchy black, underside, with the legs and antennæ, pitchy red; head and prothorax very finely and obsoletely punctured; elytra with a well marked sutural stria extending from the apex more than half-way to the base, their punctuation rather fine and close; metasternum with the middle of the anterior part much depressed towards the front and very evidently separated by a well-marked margin from the posterior part. ♂. Anterior and middle tarsi dilated; apex of posterior femora truncate, and with an obtuse tooth.

Long. 1 lin.

Not common, but found sometimes among dead leaves and moss. I have no proof of its occurrence in the north of England or Scotland.

3. *Agathidium lævigatum*, Erich.

Black, with the sides of the thorax, legs, and antennæ pitchy brown, the first two joints of the club darker; upper surface impunctate and without any sutural stria on the elytra; metasternum with a middle space not much depressed towards the front, and evidently separated by a margin from the posterior part. ♂ with the anterior and middle tarsi dilated; metasternum with a small brush of hairs arising from a slight depression.

Long. 1 lin.

Common all over the country, occurring among refuse vegetable matter and sometimes in sandpits.

4. *Agathidium atrum*, Payk.

Black, with the sides of the thorax, legs and antennæ pitchy brown, club of the latter sometimes darker and the third joint very long (about as long as the three succeeding); head and elytra rather closely and evidently, thorax very finely and obso-

letely, punctured; sutural stria of the elytra well marked and extending more than half-way to the base; metasternum with a slightly curved transverse line. ♂ with the anterior and middle tarsi dilated at the base, posterior femora truncate at the apex and with a well-marked acute tooth; metasternum with a bunch of hairs arising from a shallow fovea.

Long. $1\frac{1}{3}$ lin.

Differs from *A. seminulum* in its larger size, darker colour, more evidently punctured head, longer third joint to the antennæ, and the different structural characters of the ♂. Common both in England and Scotland among dead leaves and moss, occurring also now and then in sandpits.

5. *Agathidium varians*, Beck.

Brownish-yellow, shining, disc of the thorax and elytra pitchy red, the club of the latter darker; head with largish but faintly impressed and distant punctures, with two shallow foveæ between the eyes, and an ill-defined transverse impression where the thorax meets it; thorax extremely finely and obsoletely punctured; elytra with a sutural stria reaching quite half-way to the base, almost impunctate. ♂ with the anterior and middle tarsi slightly dilated, and with a slender but elongate bunch of setæ on the centre of the metasternum; ♀ with the tarsi 4, 4, 4. The ♂ sometimes, though rarely, has the left mandible a little prolonged and bent at the apex.

Long. 1 lin.

Found sometimes in considerable numbers among refuse vegetable matter, moss, etc., both in the north and south of England and in Scotland.

6. *Agathidium clypeatum*, nov. sp.

Piceum, prothoracis limbo, antennarum scapo, pedibusque testaceis; capite fere lævigato, clypeo depresso; prothorace parce et obsolete, elytris parce sed evidentius punctatis, his stria suturali medium attingente.

♂ tarsis anterioribus et intermediis dilatatis; metasterno fasciculo pilorum parvo instructo; mandibula sinistra elongata, falcata.

♀ tarsis 4, 4, 4.

Long. $\frac{2}{3}$ —1 lin.

Colour and size of *A. varians*, but not quite so broad and rather more acuminate behind. The underside, the basal eight joints of the antennæ, and the legs and margins of the thorax, testaceous. Club

of the antennæ black ; these are short and with the third joint not so long as the two succeeding. The head is very sparingly and obsoletely punctured, the punctures more evident behind the eyes. The clypeus is depressed, so as to leave the front of the head emarginate. Thorax rather narrower than the elytra, its sides faintly and sparingly, the disc extremely finely and obsoletely punctured. Elytra with the humeral angles well marked but very obtuse, sparingly and finely punctured, with a sutural stria extending more than half-way. In the male the left mandible is produced into a long pointed horn.

This species is perhaps the *A. piceum* of Erichson, but the humeral angles seem to be not so rectangular as the description of that species would lead one to expect. Moreover Erichson says nothing of the remarkable emargination of the head behind the mandibles.

Found by Mr. Janson on fungi in Headly Lane, Mickleham, some years ago, and by Mr. Bold in Northumberland. Dr. Power has also captured a single specimen at Headly Lane : this was supposed to be *A. mandibulare*, Sturm, a species of which I have seen no British example, and which must, I am afraid, be (at any rate for the present) erased from our lists.

7. *Agathidium rotundatum*, Gyll.

Black, the sides of the thorax, legs and antennæ pitchy ; club of the latter black, with the apex sometimes lighter ; head and thorax very finely punctured, the punctuation on the disc of the latter being very obsolete ; elytra with a well-marked sutural stria, extending beyond the middle, pretty thickly and finely punctured, the punctures being more evident towards the apex and sides. Of the male there are two well marked forms. In one the left mandible is armed with a straight pointed thorn-like horn reclining on the head. In the second this mandible is merely a little thickened and curved. In both of these forms the anterior and middle tarsi are slightly dilated and there is a small bunch of hairs springing from the metasternum.

Long. $\frac{2}{3}$ lin.

Common in the North of England and Scotland under the bark of fir stumps ; the more developed form of the ♂ seems to be rare. The smallest of our British *Agathidia*, small males of *A. marginatum* alone being equally diminutive.

8. *Agathidium convexum*, nov. sp.

Nigrum, nitidum, prothoracis limbo piceo ; antennis pedibusque rufis ; capite equaliter punctulato ; prothoracis disco obsolete,

lateribus cum elytris parce subtiliter punctulatis, his stria suturali medium haud attingentæ; mesosterno subtiliter carinato.

♂ tarsi anterioribus et intermediis dilatatis; metasterno fasciculo pilorum parvo instructo.

♀ tarsi 5, 4, 4.

Variat colore, interdum piceo-rufum (forte immaturum).

Long. $\frac{3}{4}$ — $\frac{4}{5}$ lin.

Closely allied to the preceding, but larger, with a short neatly impressed sutural stria, and the club of the antennæ concolorous. Head finely and pretty closely punctured. Antennæ with the third joint as long as the two succeeding, the club concolorous; thorax scarcely narrower than the elytra, sparingly and obsoletely punctured, the sides more thickly and evidently so. Elytra very convex, sparingly and faintly but evidently punctured, with a short narrow sutural stria not reaching to the middle; humeral angles as in *A. rotundatum*. The male sometimes has the left mandible a little elongated and pointed.

This species is about the size and has very much the appearance of *A. marginatum*, Sturm, but differs from it in the following respects:—The elytra possess a short but evident sutural stria, and their punctuation is less close and distinct, the antennæ are unicolorous, the female has the anterior tarsi five-jointed. From description it also appears to be closely allied to *A. hæmorrhoum*, Erich., but to be larger and with less evident punctuation (especially on the elytra) than that species.

Rare; most of the specimens I have seen come from Scotland, where it has been taken by Mr. Hislop. I have found it at Rannoch in Perthshire; also taken by Dr. Power at Hampstead (on the authority of his specimens *A. piceum* was erroneously introduced into our lists). I have also found one or two other specimens in collections mixed up with *A. marginatum*, Sturm.

9. *Agathidium marginatum*, Sturm.

Black, very convex, with the margins of the thorax and elytra towards the apex more or less pitchy; antennæ and legs pitchy-red, with the first two joints of the club of the former darker; elytra without any sutural stria, pretty thickly and evidently, the head and thorax very finely punctured. ♂ with the anterior and middle tarsi slightly dilated at the base; metasternum with a very small fasciculus of hairs; ♀ with tarsi 4, 4, 4.

Long. $\frac{3}{4}$ lin.

This insect cannot be confounded with *A. lævigatum*, which is the only other British species without any sutural stria; the well marked humeral angles of the elytra (more nearly rectangular than in most of its allies) of *A. marginatum* will at once distinguish it from that species.

Rare; occurs very sparingly both in the North and South. Found once by Mr. F. Smith in some numbers in Charlton pit.

10. *Agathidium nigrinum*, Sturm.

Pitchy black, with the antennæ, except the club, and the legs, a little lighter; head tumid behind the eyes, very closely and extremely finely punctured; thorax very transverse, very closely and obsoletely punctured, not so wide as the elytra; these with their humeral angles nearly right angles, punctuation rather fine and not close, sutural stria well marked and reaching beyond the middle. ♂ with the anterior and middle tarsi a little dilated, and a very minute bunch of hairs on the metasternum.

Long. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.

This fine insect is distinguished from all our other indigenous species, except *A. rhinoceros*, by its head being tumid behind the eyes; this character, together with the well marked nearly rectangular humeral angles of the elytra, at once separates it from *A. atrum*, which is the only other species that ever equals it in size.

Rare; found sometimes in sandpits in the south, at fir stumps in Scotland, and is also taken by Mr. Bold in Northumberland.

11. *Agathidium rhinoceros*, nov. sp.

Globoso-ovatum, nigro-piceum; antennis articulis 4—8 intus subproductis; capite prothoraceque parce punctatis, hoc lateribus antrorsum angustatis; elytris punctulatis, humeris fere rectis; stria suturali medium attingente.

♂ mandibula sinistra vel cornuta, vel producta, vel mucica; tarsis anterioribus et intermediis dilatatis; metasterno fasciculo pilorum inconspicuo instructo.

♀ tarsis 5, 4, 4.

Long. $1\frac{1}{4}$ lin.

Var.—Piceo-rufum.

Pitchy black, with the legs and scape of the antennæ lighter; head with the temples tumid behind the eyes and with two broad shallow foveæ behind the mandibles, together with the thorax

finely punctured, the latter with its sides narrowed anteriorly, though but little rounded; elytra closely and evidently punctured, with the humeral angles nearly right angles.

Allied to *A. nigrinum*, but smaller and narrower, with the elytra more acuminate behind and the punctuation of the upper surface more distinct throughout, but more sparing on the head. Judging from Thomson's description of *A. arcticum*, it must also be closely allied to that species, but in *A. arcticum* the foveæ between the eyes appear to be wanting and the tarsi in the male are not dilated, nor does there appear to be any form of that sex with an armed mandible.

In *A. rhinoceros* the development of the left mandible of the ♂ is more remarkable than in any other species of the genus with which I am acquainted, but it varies extremely and is generally entirely wanting, having the mandible simple, as in the other sex. Sometimes there is a long blunt horn curved backwards and springing from the mandible a little before its apex, while sometimes the mandible itself is prolonged and bent upwards into a horn; there are several distinct varieties of the first-mentioned of these forms, and the second gradually shades off to the unarmed variety.

This species was found by Mr. Bishop and myself in considerable numbers under the bark of a small fir stump at Rannoch in the beginning of August, 1864. I know of no other examples.

With this species I conclude the list of the British *Agathidia*, so far as our collections at present go. There are, however, several other species, some of which at least are likely to occur in this country. Among these may be mentioned *A. badium*, Ziegl., intermediate between *A. lævigatum* and *A. seminulum*, pitchy in colour, with the elytra slightly punctured and with no sutural stria; *A. confusum*, Bris., like *rotundatum*, but with the punctuation of the elytra more marked and with the anterior tarsi in the ♀ only four-jointed; *A. mandibulare*, also like *rotundatum*, but impunctate; *A. arcticum*, Thomson, is also not unlikely to occur in some of the northern parts of Scotland when those districts shall be properly searched.